

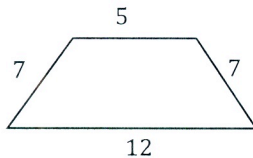
# Perimeter

Around and around we go...

Perimeter is actually a very easy concept, but some of the problems can get tricky. We will practice all the tricky stuff so it's no sweat, but first....what is perimeter? Perimeter can be defined as the distance around a figure. It can also be defined as the sum of the sides of a figure. The second one is the most useful for us. Let's look at two examples.

Find the perimeter of each figure...(All dimensions are in cm.)

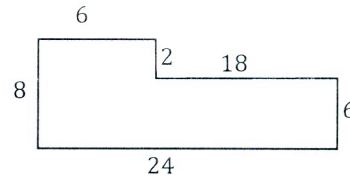
Ex. 1.



$$P = 7 + 5 + 7 + 12$$

$$P = 31 \text{ cm}$$

Ex. 2.

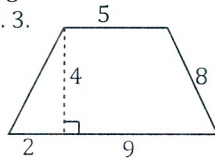


$$P = 8 + 6 + 2 + 18 + 6 + 24$$

$$P = 64 \text{ cm}$$

That was easy, huh? Okay, here comes the first trick... missing dimensions. This first one is missing a side. Use what you know about the Pythagorean theorem to find this dimension first. Then find the perimeter. NOTE: YOU CAN'T USE THE SIDE LABELED "8" AND ASSUME THE MISSING SIDE IS 8 TOO. That goes for trapezoids, triangles, and anything else slanted unless they are marked congruent.

Ex. 3.



$$a^2 + b^2 = c^2$$

$$2^2 + 4^2 = c^2$$

$$4 + 16 = c^2$$

$$20 = c^2$$

$$\sqrt{20} = \sqrt{c^2}$$

$$4.47 = c$$

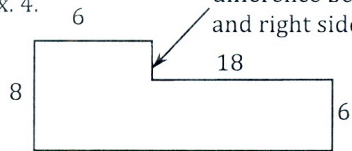
$$P = 4.47 + 5 + 8 + 9 + 2$$

$$P = 28.47 \text{ cm}$$

Notice the "4" is missing. That's because it is not an outside dimension. Don't be fooled.

The next trick... more missing dimensions... For some reason with these kinds of problems they won't draw in 90 boxes or tell you if lines are parallel. You are just supposed to assume they are. So here are two rules for these kinds of problems involving perimeter. #1. Things that look like rectangles are actually rectangles. #2. Lines that look parallel are in fact parallel. Check these out...

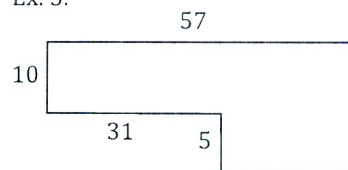
Ex. 4.



Notice this dimension is missing too!!! This one is just  $6 + 18$ , the dimensions of the two top pieces added. So it's 24.

Notice this dimension is missing!!!  
Oh no!!! Don't panic. It's just the difference between 8 and 6 (the left and right sides) so it is 2.

Ex. 5.



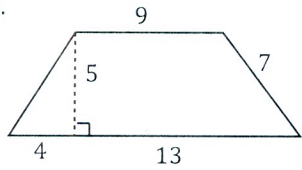
This one is...  $57 - 31$  so 26

You guessed it!  $10 + 5 = 15$

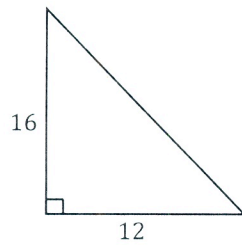
There is one more trick, but we will cover it in a couple of examples later. Let's have a go 'round!

Find any missing dimensions. Write them on the figure and then calculate the perimeter of each figure...

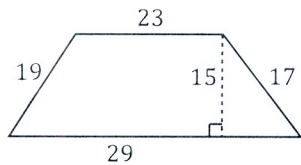
9.



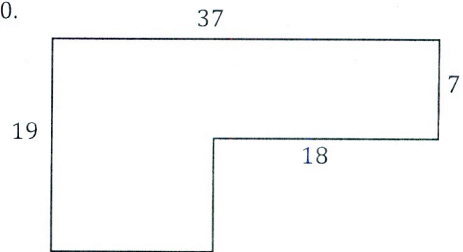
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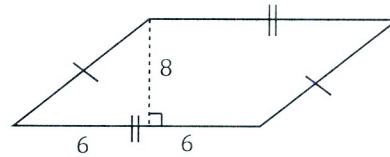
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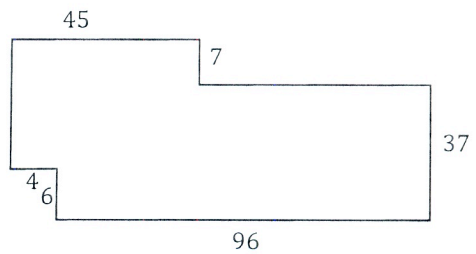
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12.



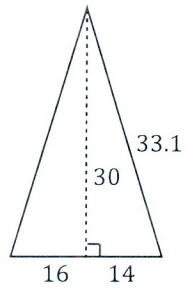
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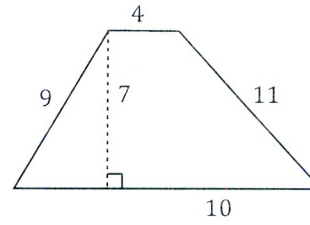
Bubble all the correct answers from above. Don't bubble incorrect answers.

- ☐ 37.4  
 ☐ 39.4  
 ☐ 112  
 ☐ 120  
 ☐ 48  
 ☐ 45  
 ☐ 96  
 ☐ 44  
 ☐ 264  
 ☐ 288

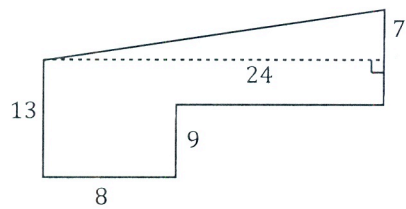
15.



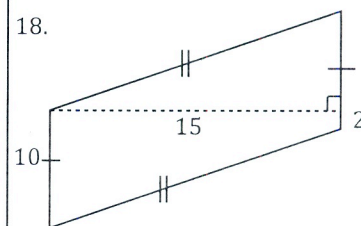
16.



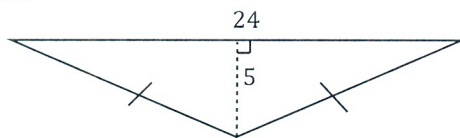
17.



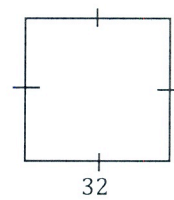
18.



19.



20.

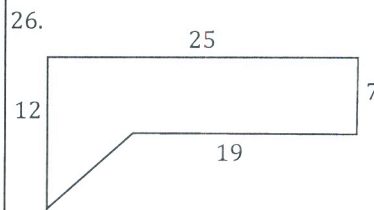
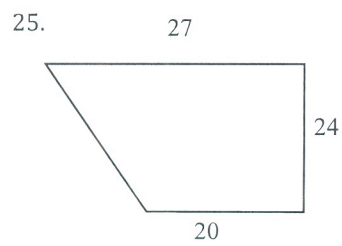
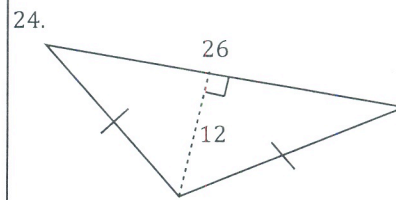
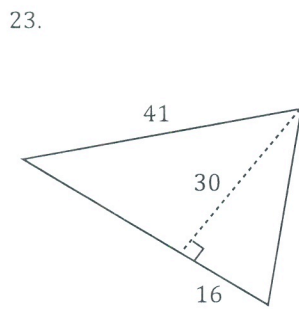
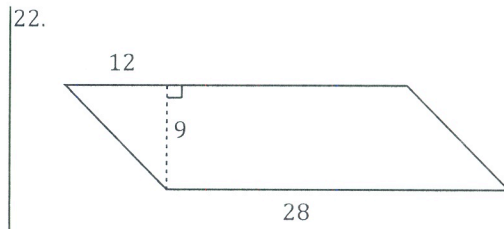
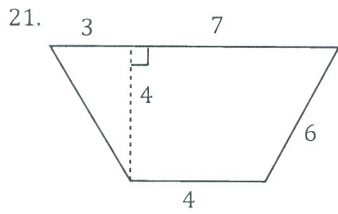


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Bubble all the correct answers from above. Don't bubble incorrect answers.

- ☐ 82   
 ☐ 84   
 ☐ 60   
 ☐ 50   
 ☐ 128   
 ☐ 136   
 ☐ 9.7   
 ☐ 39.7   
 ☐ 97.1   
 ☐ 54

Calculate the perimeter of each figure...



Bubble all the correct answers from above. Don't bubble incorrect answers.

- ☐ 86  
 ☐ 96  
 ☐ 68.8  
 ☐ 27.9  
 ☐ 63.4  
 ☐ 61.4  
 ☐ 70.8  
 ☐ 25  
 ☐ 31.9  
 ☐ 58.4